

REMARKS

This application is amended in a manner to place it in condition for allowance.

Claims 1 and 8 are amended to recite psyllium husk powder, and claims 2, 5, 6, 8, 9 and 14-20 are amended accordingly. Support for this recitation may be found for example, at specification page 10, line 13.

All of the claims are amended as to form.

Claims 1-20 remain pending in the application.

The Official Action objects to the specification for being replete with terms which are not clear, concise and exact, and points to the claims as an example.

The claims are amended to recite features in a clear, concise, and exact manner consistent with U.S. patent practice.

Therefore, withdrawal of the objection is respectfully requested.

Claims 1, 2, 5, 6, and 14-20 are objected to for informalities such as using the term "spice/s and/or herb/s" and "flour/s".

Applicant acknowledges with appreciation the claim language suggested in the Official Action. The claims are amended in a manner consistent with the suggestion, i.e., "at least one of a spice and an herb" and "flour(s)".

Therefore, withdrawal of the objection is respectfully requested.

Claims 2, 4, 8, 9, 12 and 13 are rejected under 35 USC §112, second paragraph, for being indefinite.

The position of the Official Action is that claims 2 and 4 lack sufficient antecedent basis for the terms "the optional flour" and "the flour", respectfully, and that claims 2, 4, 8, 9, 12 and 13 recite both a broad range and a narrow range for a single feature in the same claim.

The claims are amended in a manner so that the features have antecedent basis and a single range describes each feature.

Therefore, the claims are definite, and withdrawal of the rejection is respectfully requested.

Claims 1 and 3 are rejected under 35 USC §102(b) as being anticipated by LIEPA et al. US 3,840,679 (LIEPA). This rejection is respectfully traversed.

LIEPA discloses a complicated process for the manufacture of meat analogs comprising meat-like fibers.

In the first step of the process, a protein mix is formed of animal protein or vegetable protein, such as soy protein isolate.

To form the soy protein isolate, LIEPA discloses that soybeans are dehulled and solvent extracted, and the obtained oil-free soybean meal is suspended in water. Alkali is added to dissolve the protein, which is isolated by precipitation from the alkaline solution with an acidic substance. The resulting soy protein isolate is expensive, complicated to manufacture and

contains only pure protein, no other components with health benefits.

Thus, LIEPA fails to disclose or suggest the use of textured soy protein, as recited in independent claims 1 and 8 and described at specification page 5, lines 1-10 and Table 1.

In the second step of the LIEPA process, the moisture content of the protein mix is adjusted to form a dough-like protein wet mix. Then, the dough is passed through sheeting rolls to provide a sheet, which is then passed through corrugated roller mills to provide a creped sheet. The creped sheet is stabilized by heating the sheet and/or by using binders. When binders are used, a thin film of an aqueous coating comprising the binder is applied on the corrugated/creped sheet. After stabilization is completed, the product may be cut or formed to a meat-like product.

Thus, the process of LIEPA requires expensive and complicated industrial process equipment, and completely different from the independent process claim 1. Indeed, the process of LIEPA cannot be realized with simple mixing and heating as claimed in independent process claim 1. Also, the components used in LIEPA are expensive and predominantly animal based components are suggested.

In the claimed invention, textured soy protein is used, which is inexpensive and contains significant amounts of "good" carbohydrates, vitamins, minerals, soy protein and micronutrients

beneficial to health. Further, the product is a total vegan product (100% plant derived). Moreover, independent claims 1 and 8 recite psyllium husk powder, which is not the same as the psyllium seed in LIEPA.

However, according to the present invention, nutritive preparations such as vegan burgers, nuggets, loaves having a pleasant mouth feel and taste can be manufactured in a simple and cost effective way.

In view of the above discussion, LIEPA fails to disclose or suggest textured soy protein and psyllium husk powder in independent claims 1 and 8, and the recited steps of independent claim 1.

Therefore, LIEPA cannot anticipate claims 1-20, and withdrawal of the rejection is respectfully requested.

Claims 2 and 4-20 are rejected under 35 USC §103(a) as being unpatentable over LIEPA et al. US 3,840,679 ("LIEPA") in view of ORTHOEFER US 4,125,630, ("ORTHOEFER"), YAMADA US 4,863,749 ("YAMADA"), YU WO 02/13761 ("YU") and The Recipe Link website ("The Recipe Link"). This rejection is respectfully traversed.

ORTHOEFER discloses a process for the manufacture of meat analogs. In the first step, a homogeneous aqueous dispersion is made from water, an edible plasticizer and vegetable protein material. In the second step, the dispersion is subjected to an elevated temperature to coagulate the protein

and to dry the product to a dry mass conveniently by compressing and drying the dispersion between heated rollers such as double drum drying or calendaring, preferably to a mass having thickness of 0.015 inch or less, which simulates the characteristics of natural meat fibers. In the third step, the dry mass is hydrated in the presence of an acidulant like acetic acid, which is essential for achieving the desired pliability and structural strength. Suitable edible plasticizers include polyols and edible surfactants. The obtained product resembles a piece of poultry meat or sausage. Accordingly, the process and the obtained product of ORTHOEFER are completely different from the process and product described in independent claims 1 and 8.

ORTHOEFER also suggests in the examples using lecithin in combination with glycerol or partly hydrogenated vegetable oil as the plasticizer. However, it is well known that partly hydrogenated vegetable oil is transformed to unhealthy trans-fat.

ORTHOEFER is silent about the use of textured soy protein in combination with psyllium husk powder, as recited in independent claims 1 and 8, to achieve the surprisingly palatable vegan product having a pleasant mouth feel and taste and being beneficial to the health with a simple and cost effective way as disclosed in the present application.

Thus, ORTHOEFER cannot remedy the deficiencies of LIEPA for reference purposes.

YAMADA provides low-cholesterol all-vegetable meat analogs with a process where texturized vegetable protein (TVP), is hydrated with water, washed with rice washer, dehydrated and disintegrated in a horizontal centrifuge, followed by washing and hydration denaturizing and dehydrating the TVP. The TVP is then combined with a binder and additional ingredients, and the mixture is stuffed into a casing and heat-sealed. Sausage-like products are obtained. Thus, YAMADA teaches a very complicated and expensive process for treating TVP, contrary to the claimed process of independent claim 1.

However, YAMADA is silent about the use of textured soy protein in combination with psyllium husk, as recited in independent claims 1 and 8, to achieve the surprisingly palatable vegan product having a pleasant mouth feel and taste and being beneficial to the health with a simple and cost effective way as disclosed in the present application.

Thus, YAMADA cannot remedy the deficiencies of LIEPA for reference purposes.

YU describes a method for improving the functional properties of psyllium particularly for applications in the pharmaceutical and food industry. However, YU actually teaches away from the use of psyllium husk powder as claimed in independent claims 1 and 8.

On page 3, third paragraph, YU discloses that the strong hydrophilic and gelling properties of psyllium make it

difficult to incorporate psyllium into a food formula. Further, YU discloses that an unpleasant slimy mouth feel and undesirable flavor are characteristic of psyllium. Indeed, manufactures in the food industry, and particularly the meat industry, do not add psyllium husk powder to their products because of the above reasons. YU concludes that it is necessary to improve the functional, biological, and sensory properties of psyllium, and YU achieves this by modifying psyllium using an enzyme treatment.

However, contrary to YU, the product described in both independent claims 1 and 8 utilizes unmodified psyllium husk powder, i.e., not enzymatically treated, in combination with textured soy protein. This composition surprisingly results in a palatable vegan product having a pleasant mouth feel and meat-like taste, as well as health benefits. Moreover, the product is produced using a simple and cost effective process.

Thus, as YU teaches away from using unmodified psyllium husk powder in any edible products, YU fails to remedy the deficiencies of LIEPA for reference purposes.

The Recipe Link presents two recipes for making beef flavored products. In the first recipe no binders are used, and the result is fried soy crumbs, which do not hold together, and certainly do not resemble hamburger beef. The second recipe provides a beefy product holding slightly better together, but, however, the second recipe is far from resembling a beefy burger or a meatball. Indeed, neither of these recipes provides a real

meat analog, as binders, such as egg, are needed to yield acceptable products that do not fall apart.

Thus, as The Recipe Link fails to disclose or suggest psyllium husk powder, a product with binders, or even the process as claimed, The Recipe Link cannot remedy the shortcomings of LIEPA for reference purposes.

In view of the above discussion, none of these publications, alone or in combination, would teach or suggest to one of ordinary skill in the art the products or process according to independent claims 1 and 8, as well as dependent claims 2, 4-20.

Indeed, there was a great need in the markets for a genuine, vegan, meat-like product. No palatable products acceptable in reality were on the markets earlier with the cost effective technology and ingredients, or the similar products and exploiting the similar process according the present invention. It was surprising, especially in evidence of YU, that the applicant succeeded in combining textured soy protein with psyllium husk powder to yield the desired product in a simple and economic way.

Therefore, the proposed combination fails to render obvious claims 1-20, and withdrawal of the rejection is respectfully requested.

In view of the amendment to the claims and the foregoing remarks, the present application is in condition for




allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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